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Rupert B. Hurley Jr.

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December 28, 2004

DATE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventors: MUDAR et al — Group Art Unit: 1772

Serial No.: 09/426,827 — Examiner: Hon, Sow Fun

Filing Date: October 25, 1999 — Attorney Docket No.: D-43266-01

Title: PATCH BAG WITH PATCH CONTAINING HIGH AND LOW CRYSTALLINITY ETHYLENE COPOLYMERS

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APPEAL BRIEF UNDER 37 CFR § 41.37

Sir:

This Brief is being filed in triplicate further to the Notice of filed July 26, 2004, which is datestamped 28 July 2004 by the OIPE. The two-month period for the filing of the brief is extended three months, i.e., through 28 December 2004, by the accompanying request for a 3-month extension of time. Pursuant to 37 CFR §41.20(b)(2), please charge Deposit Account No. 07-1765 in the amount of $500.00 for filing this Brief. This sheet is being filed in duplicate.

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(1) Real Party in Interest

The real party in interest is Cryovac, Inc., assignee of the above-referenced patent application.

(2) Related Appeals and Interferences

There are no other appeals, interferences or judicial proceedings known to Appellant, Appellant's legal representative, or Assignee which may be related to, directly affect, be directly affected by, or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The claims on appeal are pending claims 1 and 3-26. A copy of these claims appears in the Appendix. Claims 1 and 4 have been amended twice. Claims 2, 8, and 15 have been amended once. Claim 3 has been amended three times. Claim 26 was added after the filing date. Claim 2 stands canceled.

(4) Status of Amendments

No amendment has been filed after the Notice of Appeal filed July 26, 2004. All amendments filed before the filing of the Notice of Appeal have been entered.

(5) Summary of the Claimed Subject Matter

The present invention pertains to a patch bag. [Page 1 lines 19-20; also 20 in FIG. 1 and 20 in FIG. 2] The patch bag comprises a heat-shrinkable patch adhered to a heat-shrinkable bag. [Page 2 lines 22-23] The heat-shrinkable patch comprises a first heat-shrinkable film. [Page 2 line 23 – Page 3 line 1] The heat-shrinkable bag comprises a second heat-shrinkable film. [Page 2 lines 23- Page 3 line 1] The first heat-shrinkable film comprises a blend of (a) an ethylene/alpha-olefin copolymer having a density greater than about 0.915 g/cm^3 in an amount of at least about 5 percent, based on a total weight of the blend, and (b) a heterogeneous ethylene/alpha-olefin copolymer having a density of less than about 0.915 g/cm^3. [Page 3 lines 2-19.] The heterogeneous ethylene/alpha-olefin copolymer is present in an amount of at least about 21 percent, based on the total weight of the blend. [Page 3 lines 2-19.] The ethylene/alpha-olefin copolymer having a density greater than about 0.915 g/cm^3 and heterogeneous ethylene/alpha-olefin copolymer having a density of less than about 0.915 g/cm^3 together make up at least 70 percent of the total weight of the first film. [Page 3 lines 2 - 19.] The patch is adhered to the bag with an adhesive or corona treatment. [Page 22 lines 3–4.]

Claim 26, the only other independent claim, is also directed to a patch bag and is the same as Claim 1, except that Claim 26 recites the heterogeneous ethylene/alpha-olefin copolymer as having a composition distribution breadth index less than 55 percent [Page 10 lines 3-6]

(6) Grounds of Rejection to be Reviewed on Appeal

I. Whether Claims 1, 3-8, 11-17, and 26 Are Unpatentable under 35 USC 103(a) as Obvious over FERGUSON et al '856 in view of WALTON et al

II. Whether Claims 10, 18-24 Are Unpatentable under 35 USC 103(a) as Obvious over FERGUSON et al '856 in view of WALTON et al and further in view of FERGUSON et al '403

NOTE: Appellants direct attention to the fact that Claims 9 and 25 stand objected to as depending from a rejected base claim, but have been indicated to be allowable if rewritten in independent form. Appellants have chosen not to amend Claims 9 and 25, as Appellants contend that the rejected base claims are directed to patentable subject matter.

(7) **Argument**

I. Claims 1, 3-8, 11-17, and 26 Are Patentable Over FERGUSON et al '856 in view of WALTON et al

Section 1 of the 2 April 2004 final Office Action repeats the rejection of Claims 1, 3-8, 11-17, and 26 under 35 USC 103(a) as unpatentable over FERGUSON et al '856 in view of U.S. Patent No. 5,562,958, to Walton et al ("WALTON et al"). The Examiner continues to rely upon FERGUSON et al '856 for the disclosure of a bag having improved shrink, tear, barrier, and puncture resistance, this bag being made from a multilayer barrier film having a layer containing a blend of VLDPE and LLDPE, and that the bag film exhibits good puncture resistance and impact strength.

Appellants admit that FERGUSON et al '856 discloses a bag comprising a multilayer film having a layer containing a blend of VLDPE and LLDPE. A valid rejection of Appellants' claims based on FERGUSON et al '856 requires the PTO to conclude that it would have been obvious to use the blend disclosed in FERGUSON et al '856 in a heat shrinkable patch to be adhered to a heat shrinkable bag. However, as FERGUSON et al '856 does not teach or suggest anything regarding a heat-shrinkable patch on a heat-shrinkable bag, the Examiner has turned to a secondary reference which does disclose a patch which is adhered to a bag, i.e., WALTON et al.

Turning now to WALTON et al, Appellants first note that they have pointed out to the Examiner that WALTON et al, when considered in its entirety, actually teaches away from adhering a heat shrinkable patch to a heat shrinkable bag. However, the Examiner continues to rely upon only that portion of WALTON et al disclosing a patch on a bag without reliance on the remainder of WALTON et al. Appellants contend that this is

improper, i.e., that WALTON et al must be considered in its entirety, and that there should be acknowledgement that WALTON et al is actually directed to a multilayer heat shrinkable film a polymer having the superior properties, this film being useful in heat-shrink bags for packaging food articles like poultry and fresh red meat. [See Abstract of WALTON et al.]

More particularly, the Office Action relies upon WALTON et al for the disclosure of patch bags, but ignores the clear teaching in WALTON et al of the superiority of the substantially linear ethylene/alpha-olefin interpolymer having uniform branching distribution for heat shrink films of improved shrink and toughness. Based on this and other reasons discussed in detail below, the Office Action arrives at the erroneous conclusion that Applicants' claims are obvious.

Importantly, Appellants contend that when considered in its entirety, WALTON does NOT teach that it is necessary or even advisable to place a patch on a bag. That is, WALTON teaches by implication that it is *not* necessary to place a patch on a bag to improve the puncture resistance of the bag. WALTON et al teaches to make the heat-shrinkable bag from a heat shrinkable-film containing a substantially linear ethylene/alpha-olefin interpolymer having uniform branching distribution, so that the bag will be more impact resistant *and therefore will not require the presence of a patch*, as is apparent from the Abstract of WALTON et al, as follows:

> Biaxially oriented, heat-shrinkable film-making process and film with improved toughness and extrusion processability are disclosed. The improved film comprises at least one layer of at least one substantially linear ethylene homopolymer or interpolymer, wherein the substantially linear ethylene polymer has an uniform branching distribution, and is also characterized as having essentially no linear polymer fraction, a single DSC melting peak, a density greater than about 0.85 g/cc, and a simple bubble film 1% secant modulus below 195,000 kPa. The biaxially oriented

> film is characterized as having a simple bubble shrinkage value of from about 18% to about 85% at 135°C, and is useful in preparing heat-shrink bags for packaging food articles like poultry and fresh red meat. [Abstract of WALTON et al.]

This Abstract from WALTON et al makes it clear that WALTON et al is teaching one of skill in the art to use the disclosed substantially linear ethylene interpolymer to make a heat-shrinkable film in a bag suitable for packaging meat, with no mention of a patch which is to be used in combination with a bag.

This point is still more apparent from the paragraph spanning Col. 2 to Col 3 in WALTON et al, as follows:

> Successful packaging or wrapping for all four methods, depends on the toughness and abuse or implosion resistance properties of the film materials themselves such that the packaged product's integrity is maintained during distribution, handling and/or display. However, toughness and abuse resistance are particularly important in food shrink wrapping and vacuum packaging which often times involves packaging of meat and other food cuts with deep cavities and sharp exposed bones as well as exposed edges that can puncture the film webs or fabricated bag during the heat-shrink or vacuuming-form operation or during subsequent package handling and distribution. To avoid premature puncturing, film producers resort to expensive practices to toughen the package such as using thicker films and bags, using an extra layer of film at critical contact points of the bag in a patch-like fashion as described by Ferguson in U.S. Pat. No. 4,755,403, or by using cross-ply or non-parallel layer constructions. Similarly, to "artificially" enhance the puncture and other abuse or implosion resistance characteristics of known film materials, food packagers routinely wrap or cap exposed bone edges with cloth, molded plastic articles or other materials. [WALTON et al. '958, at Col. 2 line 62 through Col. 3 line 16, emphasis added]

This passage from WALTON et al refers to the use of patches on bags as an "expensive practice" which film producers have "resorted to" in order to toughen the package in combination with the use of "thicker films and bags", which WALTON et al states are "artificial" ways of enhancing puncture, abuse, and implosion resistance of film. The

implication of this passage, when combined with the teaching that films made from the substantially linear ethylene interpolymer having uniform branching distribution as providing a film with increased puncture-resistance and toughness, is that such expensive practices as patches and thicker films are "artificial" and therefore are not necessary if problem is attacked at its source, that is by using an improved polymer such as the polymer disclosed in WALTON et al. As a result, one of ordinary skill in the art would take from WALTON et al that the solution to the bone puncture problem is to be found in the use of the substantially linear ethylene homopolymer or interpolymer to make a heat-shrinkable BAG which does not have a patch adhered thereto, rather than attacking the problem artificially by adhering a patch to a bag.

It is important to note that in WALTON et al the only mention of patches on bags is the above paragraph from columns 3-4. This teaching is found *in a discussion of the prior art*, not the invention of WALTON et al. For the reasons set forth above, this teaching of patch bags in WALTON et al is, in effect, a teaching that patches should not be necessary on bags, i.e., it is actually a teaching away from the use of patches on bags, rather than a teaching toward using a patch on a bag. WALTON et al utterly fails to teach or suggest to one of ordinary skill in the art that the packaging film of the invention of WALTON et al should be used to make a patch for a bag.

Moreover, even if one of ordinary skill in the art were to read the above paragraph and decide to place a patch on a bag, the patch film would be made from the polymer of WALTON et al which provides improved toughness and shrink, not the film of FERGUSON et al '856. It should be noted that USSN 55,063, which issued as WALTON et al, was filed over 8 years after the filing date of USSN 728,428, which

issued as FERGUSON et al '856. WALTON et al discloses and claims a heat-shrinkable film made from a species of metallocene-catalyzed polymers unavailable at the filing date of FERGUSON et al '856. The metallocene catalyzed copolymers are disclosed as being interpolymers having uniform branching distribution, and when used to make a heat shrinkable film provide the film with superior shrink and toughness relative to the heterogeneous copolymers of FERGUSON et al.

More particularly, WALTON et al states that the substantially linear ethylene/alpha-olefin copolymer is capable of providing a shrink film with improved low temperature shrink performance over conventional Ziegler catalyzed copolymers. See WALTON et al at Col. 5 lines 13-20. These Ziegler catalyzed copolymers of ethylene and butene, hexene, or octene include the LLDPE and VLDPE of FERGUSON et al '856. In addition. WALTON et al states that the substantially linear ethylene/alpha-olefin copolymer also provides shrink films having improved toughness. See Abstract of WALTON et al. Thus, as the LLDPE and VLDPE of FERGUSON et al '856 are both heterogeneous copolymers, one of skill in the art, reading WALTON et al, would be taught to use the substantially linear ethylene/alpha-olefin copolymer to obtain a film having improved shrink and toughness properties, rather than a film containing the Ziegler catalyzed LLDPE and VLDPE of FERGUSON et al '856. Thus, if any patch film is taught by WALTON et al, it would be a patch film utilizing the substantially linear ethylene/alpha-olefin copolymer of WALTON et al rather than the blend of VLDPE and LLDPE disclosed by FERGUSON et al '856. [Of course, Appellants have already pointed out that WALTON et al teaches away from using a patch on a bag.]

For all of these reasons, a prima facie case of obviousness cannot be made out based on FERGUSON et al '856 in view of WALTON et al. As a result, the §103 rejection of Claims 1, 3-8, 11-17, and 26 should be reversed because no prima facie case of obviousness of any one or more of these claims has been made out.

Appellants now direct attention to several remarks in response made by the Examiner in Sections 4 through 8 of the Office Action of 2 April 2004. Turning first to the remarks in response set forth in Section 4, which is a response to Appellants argument that WALTON et al teaches the superiority of the substantially linear ethylene/alpha-olefin interpolymer having uniform branching distribution for improved heat shrink and improved toughness in a heat shrinkable bag [see Page 4 of Amendment under 37 CFR 1.111 filed Dec 28, 2003], the Examiner respectfully reminded Appellants:

> ...that WALTON et al is the secondary reference which **merely** demonstrates that in order to avoid puncturing by sharp exposed bones, it is well known in the art of biaxially-oriented heat-shrinkable film for packaging poultry or meat ('958, abstract) to provide an extra layer of film at critical points in patch-like fashion.[Office Action of 2 April 2004, paragraph spanning pages 2 and 3, emphasis added]

Appellants point out that this statement reveals that the Examiner is impermissibly relying upon *only a portion* of WALTON et al, without considering WALTON et al as a whole, as required under the law. That is, reliance on WALTON et al for "merely" demonstrating the use of patches to avoid bone puncture is reliance "merely" on the general disclosure of the use of patches in the prior art, without taking into account the remainder of WALTON et al. This remainder: (a) teaches away from using patches on bags, and (b) teaches towards use of substantially linear ethylene/alpha-olefin interpolymer over LLDPE and ULDPE (=VLDPE), to make a film of improved

toughness, improved puncture-resistance, and improved shrink, and further teaches to convert the film into a bag, with no teaching or suggestion that it would be useful to place a patch on the bag. [See Appellants' arguments above, and Appellants' response to Section 7 of the 2 April Office Action, below.] The Examiner has not directly responded to the fact that WALTON et al, considered as a whole, teaches that the substantially linear ethylene/alpha-olefin interpolymer (SLEP) is superior to Ziegler catalyzed ethylene/alpha-olefin copolymers, which clearly includes Appellants' recited heterogeneous ethylene/alpha-olefin copolymer having a density of less than about 0.915 g/cc. The Examiner has also not directly responded to the fact that WALTON et al teaches that patches are artificial and expensive solutions which packaging companies have "resorted to" to solve the bone puncture problem, which teaching carries with it the implication that films containing the SLEP can be used to make a tougher, more puncture-resistant, better shrinking bag, without any teaching or suggestion to place a patch on the bag. As a result, Appellants continue to maintain that WALTON et al must be considered as a whole, and that when considered as a whole, that WALTON et al teaches away from Appellants' invention for the reasons pointed out above.

Turning next to the remarks in response set forth in Section 5, which is a response to Appellants argument that WALTON et al does not teach that it is necessary or advisable to place a patch on a bag, the Examiner respectfully reminded Appellants:

> ...that WALTON et al provides evidence that making a patch out of the same material as the bag in order to provide added protection from puncture by bone in meat is notoriously well known in the art. [Office Action of 2 April 2004, page 3, bottom paragraph]

Appellants contend that this statement in reply is erroneous for several reasons. First, WALTON et al does not provide any teaching or suggestion to make a patch out of the same material as the bag. The Office Action does not cite any location in WALTON et al which teaches or suggests making a patch out of the same material as the bag. Appellants are aware of no such teaching in WALTON et al. Second, WALTON et al teaches away from patches, as pointed out above. Third, the description of the prior art of patches, as set forth in WALTON et al at Column 2 line 62 through Column 3 line 16, includes reference to USPN 4,755,403, to Ferguson, which clearly teaches patch films which differ from bag films.

Turning next to the remarks in response set forth in Section 6, which is a response to Appellants argument that WALTON et al teaches that the use of patches on bags is an expensive practice and is artificial and not necessary when using the polymer of WALTON et al, and accordingly teaches away from the use of patches on bags, the Examiner respectfully reminded Appellants:

> ...that even one not of ordinary skill in the art of meat packaging would know that an additional layer provides additional protection. Furthermore, the composition blend of FERGUSON et al provides for shrinking of the packaging film in hot water baths (856, column 6, lines 55-60), which is taught as a great advantage in packaging ('856, column 5, lines 1-5). [Office Action of 2 April 2004, page 4, lines 4-8]

In response, Appellants point out that while one not of ordinary skill in the art may well be of the opinion that any extra layer on a film would provide at least some additional protection, this does not change the fact that WALTON et al teaches away from the use of patches on bags, for the reasons pointed out in Section I of the arguments, above. Moreover, the Examiner's statement that "...the composition blend of

FERGUSON et al provides for the shrinking of the packaging film in hot water baths" ('856, column 6, lines 55-60, emphasis added)" is not accurate. In fact, this portion of FERGUSON et al '856 pertains only to VLDPE in films, with no mention of LLDPE or a blend of VLDPE and LLDPE. More particularly, Column 6 lines 55-60 of FERGUSON et al '856 is a sentence in the paragraph extending from line 49 through line 59, as follows:

> It is quite surprising that the VLDPE having a melt temperature of 244°F. can be oriented at 205°F., particularly, when the VLDPE is the substrate of a barrier film. Normally, an olefin based polymer would be expected to orient at not more than 10°F. to 15°F. below its melting point. For example, in the above mentioned U.S. Pat. No. 3,741,253 the EVA has a melt point of about 205°F. and is oriented at about 190°F. Since films shrink at or near orientation temperature, this means that packages made from film according to the invention can be shrunk in hot water baths. ['856, Col. 6 lines 49-59]

Thus, the Office Action errs in attributing to FERGUSON et al '856 a teaching that a blend of VLDPE and LLDPE provides improved hot water orientability, when in fact FERGUSON et al '856 teaches the hot water orientability for a film containing VLDPE, without any teaching of orientability out of hot water for a film comprising a blend of VLDPE and LLDPE.

FERGUSON et al '856 teaches the use of VLDPE in a multilayer barrier film. The teaching of improved orientation out of hot water is attributed to the presence of VLDPE in the film, without mention of LLDPE. [See Column 4 lines 64-68; See Column 6 lines 49-52; See Column 8 lines 65-68.] The teaching of greater ball burst strength and enhanced resistance to film puncture is also attributed to the presence of VLDPE in the film, without mention of LLDPE. [See Example 2, which is a film

containing VLDPE without any LLDPE, set forth at Column 7 line 66 through Column 8 lines 47.] Still further, the teaching of reduced oxygen transmission and reduced water vapor transmission is also attributed to the presence of VLDPE in the film, without mention of LLDPE. [Again, see Example 2, particularly Col. 8 lines 48-60.] FERGUSON et al '856 teaches a multilayer barrier film having a layer of VLDPE and optionally another layer containing a blend of VLDPE and LLDPE. [See Col 5 lines 26-30 and Claim 6.] The only other mention of a blend of VLDPE and LLDPE in FERGUSON et al '856 is the statement that "...in certain applications, blends of VLDPE, LLDPE and/or EVA may be used to achieve desired properties." [See '857 at Col. 9 lines 49-51.] FERGUSON et al contains no hint as to what the "desired properties" may be. In summary, it is clear that FERGUSON et al '857, taken as a whole, does not teach or suggest that a blend of VLDPE and LLDPE will provide any enhanced properties that VLDPE will not provide by itself. Accordingly, there is no teaching in FERGUSON et al '856 which would have led one of ordinary skill in the art to believe that a blend of VLDPE and LLDPE would provide desirable properties for use in a patch.

As to the remarks in response set forth in Section 7, which is a response to Appellants argument that because WALTON et al was filed 8 years after FERGUSON et al '856 was filed, one of skill in the art reading WALTON et al would use the substantially linear metallocene catalyzed ethylene/alpha-olefin copolymer of WALTON et al to obtain a film having improved shrink and toughness, rather than a film containing the Ziegler catalyzed LLDPE and VLDPE of FERGUSON et al '856, the Examiner respectfully reminded Appellants:

> ...that the Ziegler catalyzed LLDPE and VLDPE has different shrink properties than metallocene catalyzed ethylene/alpha-olefin copolymer as discussed above ('856, column 6 lines 55-60), which is taught as a great advantage in packaging ('856, column 5, lines 1-5). Furthermore, the materials cost less, which is another great advantage in commercial packaging. [Office Action of 2 April 2004, page 4, lines 14-18]

In response, Appellants first point out the Examiner's remarks above again err in interpreting the statement at Col. 6 lines 55-60 as pertaining to a blend of LLDPE and VLDPE, when in fact this portion of FERGUSON et al '856 pertains to the orientability of a film containing VLDPE, *with no mention of LLDPE*. This point has already been discussed in detail above. Moreover, contrary to the Examiner's statement in the paragraph set forth above, because FERGUSON et al '856 was written before the public disclosure of metallocene catalyzed polymers such as those of WALTON et al, it is clear that FERGUSON et al '856 makes no mention of any "difference in shrink properties between Ziegler catalyzed LLDPE and VLDPE versus metallocene catalyzed polymers." Rather, and in stark contrast, it is the later-written WALTON et al which compares the shrink properties of the Ziegler catalyzed ULDPE (=VLDPE) films and LLDPE films versus the metallocene catalyzed SLEP films, with the SLEP films exhibiting *higher shrink*. [See Table 2 of WALTON et al spanning the top of Columns 19 and 20 of WALTON et al.] Moreover, Table 1 of WALTON et al compares ULDPE films and SLEP films, with the SLEP films exhibiting *greater toughness and greater puncture resistance*. [See Table 1 spanning Columns 17 and 18 of WALTON et al.] As if that is not enough, Table 14 of WALTON et al teaches that the substantially linear ethylene interpolymer (SLEP) of WALTON et al provides *greater tensile strength and greater*

toughness than a ULDPE based film. [See Table 14 spanning Columns 25 and 26 of WALTON et al, comparing Example 20 (SLEP) with Examples 21 (ULDPE) and 22 (ULDPE).] Based on all of this evidence, it is clear that Appellants have accurately described WALTON et al as teaching one of skill in the art that the metallocene catalyzed SLEP polymers result in films having greater shrink, greater impact strength, and greater puncture resistance. Thus, it is also clear that one reading WALTON et al would not be led to use a blend of VLDPE and LLDPE in a heat shrinkable patch film. Rather, it is clear that one of ordinary skill in the art would have been led to use of the SLEP films of WALTON et al over the VLDPE based film of FERGUSON et al '856.

As to the remarks in response set forth in Section 8 of the final Office Action, Appellants note that the Examiner states that the showing of unexpected results of Appellants' blend of 75% VLDPE/25%LLDPE is not commensurate with the scope of Appellants' claims. Appellants agree that the showing of unexpected results is not as broad as the scope of the claims on appeal, and that as a result the showing of unexpected results is not commensurate with the scope of the claims on appeal. Accordingly, for the purposes of this appeal, Appellants are no longer relying upon this showing of unexpected results.

II. Claims 10, 18-24 under 35 USC 103(a) Are Patentable Over FERGUSON et al '856 in view of WALTON et al and further in view of FERGUSON et al '403

Applicants note that the Office Action relies upon FERGUSON '403 for the disclosure of an A/B/B/A collapsed self-welded seamless film tubing as providing a symmetrical film of Claims 18-24. Although Applicants admit that FERGUSON '403 does

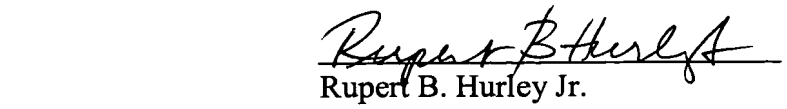
disclose a self welded structure similar to the self welded symmetrical structure of Applicants' Claims 18-24, Applicants note that Claim 18-24 require the same blend recited in Claim 1, and Applicants further note that the Office Action relies upon FERGUSON et al '856 in view of WALTON et al for arriving at this blend of polymers in the patch film. Applicants have pointed out above why FERGUSON et al '856 in view of WALTON et al does not teach or suggest this blend of polymers in a patch film, and Applicants again call upon all of these arguments in response to the rejection of Claims 10 and 18-24.

Applicants also again point out that because FERGUSON '403 is directed particularly to a patch bag, that one of skill in the art would be led to use the LLDPE of FERGUSON '403 in the patch film, not the blend recited in Applicants' Claim 1, as discussed under heading III on Pages 6-10 of the Preliminary Amendment filed 29 May 2003. Applicants note that this rejection has been withdrawn in that it was not asserted in 29 August 2003 Office Action.

Conclusion

Appellant respectfully submits that, for all of the foregoing reasons, Claims 1 and 3-26 are patentable over the art of record. The rejection of those claims should therefore be reversed, with a view towards allowance.

Respectfully submitted,



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(8) Claims Appendix

1. A patch bag comprising a heat-shrinkable patch adhered to a heat-shrinkable bag, the heat-shrinkable patch comprising a first heat-shrinkable film and the heat-shrinkable bag comprising a second heat-shrinkable film, the first heat-shrinkable film comprising a blend of:

A) ethylene/alpha-olefin copolymer having a density greater than about 0.915 g/cm^3 in an amount of at least about 5 percent, based on a total weight of the blend; and

B) heterogeneous ethylene/alpha-olefin copolymer having a density of less than about 0.915 g/cm^3, present in an amount of at least about 21 percent, based on the total weight of the blend; and

wherein the ethylene/alpha-olefin copolymer having a density greater than about 0.915 g/ cm^3 and heterogeneous ethylene/alpha-olefin copolymer having a density of less than about 0.915 g/cm^3 together make up at least 70 percent of the total weight of the first film, and wherein the patch is adhered to the bag with an adhesive or corona treatment.

3. The patch bag according to Claim 1, wherein the ethylene/alpha-olefin copolymer having a density greater than about 0.915 g/cm^3 is present in the blend in an amount of from about 5 to 70 percent, based on the weight of the blend, and the heterogeneous ethylene/alpha-olefin copolymer having a density of less than about 0.915 g/cm^3 is present in the blend in an amount of from about 30 to 95 percent, based on the weight of the blend.

4. The patch bag according to Claim 3, wherein both the first and second heat-shrinkable films each have a total free shrink, at 185°F, of at least 35 percent, and the ethylene/alpha-olefin copolymer having a density greater than about 0.915 g/cm^3 comprises linear low density polyethylene in an amount of from about 20 to 50 percent, based on total blend weight, and the heterogeneous ethylene/alpha-olefin copolymer having a density of less than about 0.915 g/cm^3 comprises very low density polyethylene in an amount of from about 50 to 80 weight percent, based on total blend weight, with the blend optionally comprising a homogeneous ethylene/alpha-olefin copolymer having a density of from about 0.88 to 0.915 g/cm^3 in an amount of from about 0 to 30 percent, based on total blend weight, with the blend being present in an amount of at least 70 weight percent, based on layer weight, in a layer having a thickness of at least about 0.6 mil.

5. The patch bag according to Claim 3, wherein the blend comprises very low density polyethylene in an amount of from about 60 to 95 weight percent, based on total blend weight, and linear low density polyethylene in an amount of from about 5 to 40 percent.

6. The patch bag according to Claim 3, wherein the blend comprises at least 75 percent of the patch, based on total patch weight.

7. The patch bag according to Claim 3, wherein the patch bag exhibits a Standard Rib Drop Test failure rate of less than 35 percent.

8. The patch bag according to Claim 3, wherein the patch is free of homogeneous ethylene/alpha-olefin copolymer.

9. The patch bag according to Claim 3, wherein the blend comprises homogeneous ethylene/alpha-olefin copolymer in an amount of from about 1 to about 20 percent, based on blend weight.

10. The patch bag according to Claim 3, wherein the blend further comprises up to 15 weight percent of at least one member selected from the group consisting of slip, filler, pigment, dye, radiation stabilizer, antioxidant, fluorescence additive, antistatic agent, elastomer, and viscosity-modifying agent.

11. The patch bag according to Claim 3, wherein the patch comprises very low density polyethylene in an amount of from about 70 to 80 weight percent, and linear low density polyethylene in an amount of from about 20 to 30 weight percent.

12. The patch bag according to Claim 3, wherein the patch is a monolayer film.

13. The patch bag according to Claim 3, wherein the bag comprises a first biaxially-oriented, heat-shrinkable film comprising an outside abuse layer, an inner O_2-barrier layer, and an inside-sealant layer, and the patch comprises a second biaxially-oriented, heat-shrinkable film.

14. The patch bag according to Claim 3, wherein the patch is adhered to an outside surface of the bag.

15. The patch bag according to Claim 3, wherein the first heat-shrinkable film has an indexed energy to break of at least 0.6 Joules per mil.

16. The patch bag according to Claim 3, wherein the patch is a multilayer film.

17. The patch bag according to Claim 16, wherein the patch film comprises outer layers each of which comprises the blend, and an inner layer comprising at least one member selected from the group consisting of ethylene/unsaturated ester copolymer, homogeneous ethylene/alpha-olefin copolymer, ethylene/unsaturated acid copolymer, and ionomer.

18. The patch bag according to Claim 16, wherein the multilayer film comprises an inner layer welded to itself and outer layers each comprising the blend.

19. The patch bag according to Claim 18, wherein the inner layer welded to itself comprises ethylene/vinyl acetate copolymer in an amount of at least 50 percent, based on the weight of the inner layer.

20. The patch bag according to Claim 19, wherein the ethylene/vinyl acetate copolymer comprises vinyl acetate in an amount of from about 3 to 50 weight percent, based on the weight of the ethylene/vinyl acetate copolymer.

21. The patch bag according to Claim 16, wherein the multilayer film comprises at least two layers which comprise the blend.

22. The patch bag according to Claim 16, wherein the multilayer film has a symmetrical cross-section.

23. The patch bag according to Claim 22, wherein the multilayer film comprises an inner layer comprising ethylene/vinyl acetate in an amount of from about 50 to 100 percent, and the film further comprises two outer layers, each of which contains the blend.

24. The patch bag according to Claim 23, wherein the blend comprises very low density polyethylene in an amount of from about 70 to 80 percent and linear low density polyethylene in an amount of from about 20 to 30 percent.

25. The patch bag according to Claim 24, wherein the patch further comprises an intermediate layer which also comprises the blend.

26. A patch bag comprising a heat-shrinkable patch adhered to a heat-shrinkable bag, the heat-shrinkable patch comprising a first heat-shrinkable film and the heat-shrinkable bag comprising a second heat-shrinkable film, the first heat-shrinkable film comprising a blend of:

A) ethylene/alpha-olefin copolymer having a density greater than about 0.915 g/cm^3, present in an amount of at least about 5 percent based on a total weight of the blend; and

B) heterogeneous ethylene/alpha-olefin copolymer having a density of less than about 0.915 g/cm^3 and a composition distribution breadth index less than 55 percent, present in an amount of at least about 21 percent, based on the total weight of the blend; and

wherein the ethylene/alpha-olefin copolymer having a density greater than about 0.915 g/cm^3 and heterogeneous ethylene/alpha-olefin copolymer having a density of less than about 0.915 g/cm^3 together make up at least 70 percent of the total weight of the first film, and wherein the patch is adhered to the bag with an adhesive or corona treatment.

(9) Evidence Appendix

No evidence described in 37 CFR §41.37(ix) was submitted by Appellant or entered by the Examiner.

(10) Related Proceedings Appendix

There are no other appeals, interferences or judicial proceedings known to Appellant, Appellant's legal representative, or Assignee which may be related to, directly affect, be directly affected by, or have a bearing on the Board's decision in the pending appeal.